What is claimed is:

1. A 12th active filter capable of concurrently removing 11th and 13th harmonics which is characterized in that a passive filter 7-1 formed of a condenser 7-1-1, an inductance 7-1-2 and a resistor 7-1-3 is formed of the phases A, B and C, and the passive filter 7-1 of each phase is formed in a three-phase structure in which a switch 7-3 and a voltage source converter 7-4 are connected through a transformer 7-2, and in the voltage source converter 7-4, V1 ~ V6 of a firing unit 7-7 are connected with the bases of the transistors of semiconductor devices V1 ~ V6, respectively, and a control unit 7-6 connected with a signal detection unit 7-5 is connected with the firing unit 7-7 for thereby removing 11th and 13th harmonics.

2. The filter according to claim 1, wherein in said voltage source converter 7-4, a triangle wave passed through a triangle wave generation unit 3-1 by each phase and a signal from the control unit 7-6, namely, a signal obtained by combining the signals from command units 3-3 and 3-4 by a combining unit, are turned on and off.

3. The filter according to claim 2, wherein in said comparison unit 3-2, a semiconductor device V1 and a semiconductor device V4 passed through an inverter 3-5 are connected with a phase A, and a semiconductor device V3 and a semiconductor device V6 passed through an inverter 3-5 are connected with a phase B, and a semiconductor device V5 and a semiconductor device V2 passed through an inverter 3-5 are connected

with a phase C.

4. The filter according to claim 1, wherein in a part of the control unit 7-6, the signals $V_{11a} \cdot cos\ \theta_{11a}$ obtained by vector-combining the value commanded by the command unit 4-1 and the voltage and phase from the signal detection unit 7-5 are combined by the combining unit 4-2 based on the scalar method, and an error of the same is outputted through a PI control unit 4-3, and the signals $V_{11a} \cdot sin\ \theta_{11a}$ obtained by vector-combining a sin ($11\,\omega t$) of the frequency conversion unit 4-5 for converting the signal from the PI control unit 4-3 into a 11^{th} frequency, the value multiplied by the multiplier 4-4, the value commanded by the command unit 4-8 and the voltage and phase from the signal detection unit 7-5 are combined by the combining unit 4-2 based on the scalar method, and the combined value is outputted through another PI control unit 4-3, and a cos ($11\,\omega t$) of the frequency conversion unit 4-9 adapted to convert the signal from the PI control unit 4-3 into a 11^{th} frequency and a value multiplied by another multiplier 4-4 are combined by the combining unit 4-6 and are outputted to the command unit 3-4.

5. The filter according to claim 1, wherein in a part of said control unit 7-6, the signals $V_{13a} \cdot cos\ \theta_{13a}$ obtained by vector-combining the value commanded by the command unit 5-1 and the voltage and phase from the signal detection unit 7-5 are scalar-combined by the combining unit 5-2, and an error of the same is outputted through the PI control unit 5-3, and the signals $V_{13a} \cdot sin\ \theta_{13a}$ obtained by vector-combining a sin ($13\,\omega t$)

of the frequency conversion unit 5-5 adapted to convert the signal from the PI control unit 5-3 into a 13th frequency, the value multiplied by the multiplier 5-4, the value commanded by the command unit 5-8 and the voltage and phase from the signal detection unit 7-5 are scalar-combined by another combining unit 5-2, and the combined value is outputted through the PI control unit 5-3, and cos ($13\omega t$) of the frequency conversion unit 5-9 adapted to convert the signal from the PI control unit 5-3 into a 13th frequency, and the value multiplied by another multiplier 5-4 are combined by the combining unit 5-6 and are outputted to the command unit 3-3.

6. The filter according to claim 1, wherein in a part of the signal detection unit 7-5, *Va* is inputted into a FFT, and a 11th harmonic size V_{13a}, a 13th harmonic size V_{13a}, a 11th harmonic phase θ_{11a}, and a 13th harmonic phase θ_{13a} are outputted, respectively.